MINOT STATE UNIVERSITY
CAMPUS IT PLAN

IT CONTACT DATA

Cathy Horvath
Director, IT Central
Minot State University
cathy.horvath@minotstateu.edu
701-858-4445

IT OVERVIEW

Minot State University is committed to helping students gain confidence, character, integrity, and intelligence through engaged learning, practice, and real-world problem-solving. This vision challenges the campus community to set equally high expectations and standards for student success. Technology initiatives at Minot State University are designed to align with this vision and are pursued to serve as an effective means to this valuable end.

Information Technology (IT) is a strategic necessity for Minot State University, a masters-granting, research institution. Fundamental tools (e-mail, file sharing, Web sites, etc.) are important for administrative, academic, and research functions and day-to-day operations. To stay competitive, advanced IT services including high speed networking, high performance computing, collaboration tools, and other advanced technology services are required.

TECHNOLOGY PLANNING PROCESS, PURPOSE, AND LIMITATIONS

Technology planning ensures resources are used wisely and projects are aligned with University strategic directions. The operational plan for the centralized campus IT department naturally flows from the development of an institutional IT plan. As stewards of limited resources, several principles are used relative to acquiring and implementing technology initiatives. These principles include:

> Adherence to Standards. The University is committed to adopting common tools to ensure resources are used wisely, improve services to faculty, staff, and students, reduce overhead costs, and allow for sharing information electronically.
>
> Budget and Resource Implications. When considering acquisition or implementation of a new technology, the University evaluates the budget and staffing resources needed in relation to the anticipated benefits. Start-up costs associated with a particular information technology as well as continuing costs are considered in the planning process.
>
> Collaboration. Tools that help people work together collectively (sharing of calendars, robust e-mail, collaborative writing, etc.) are an integral component for the University community to improve collaboration, communication, and efficiency.

As with any planning process, it is recognized that both internal and external events may have a significant impact on future resources and outcomes. Those events include major changes in institutional leadership and/or strategic planning process, new directions in the mission of the institution (changing demographics, addition of new programs, new competition), institutional re-accreditation, changing

budget realities (i.e., enrollments), compliance requirements (i.e., CALEA), and grant and outreach projects.[1]

IT INFRASTRUCTURE [2]

TECHNOLOGY GOALS AND OBJECTIVES

Goa1 #1. Technology Infrastructure.
Create an efficient, reliable, and secure network infrastructure that meets the needs of an increasingly mobile campus community and supports access to the latest voice, data, and video technology.

Scope. IT infrastructure refers to the entire technology architecture that supports student, faculty, and staff computing activities on campus and from a distance. Components that make up the current architecture include switched and routed network backbone, wireless Internet access, and critical support servers and appliances (email/calendaring collaboration, file and print, backup, network support, directory services, authentication, firewall, filtering/bandwidth management, intrusion detection, patch management, anti-virus and anti-spam gateways, remote access control, rapid application deployment, network and application resource monitoring, and secure network access). The network core infrastructure is the key component to support expanding technology development across campus. The University network currently supports gigabit Ethernet at the core and is adding to its size as new buildings are brought online and current spaces are redesigned. The incentive to advance wireless technology will continue to increase as wireless Internet access becomes the norm.

Objectives.

- Campus Backbone.
  - Upgrade campus backbone to 10 gigabit Ethernet.
  - Identify resources to support five-year campus and residence hall switch upgrade and replacement strategy.
- Campus Fiber Plant.
  - Add redundant backbone connections via fiber or other available medium.
  - Install single mode fiber as needed to support current and new applications over greater distances.
- Enterprise Convergence Planning (Data, Voice, Video).
  - Conduct network audit to gather utilization and network statistics.
  - Review infrastructure elements (core and edge switches) to ensure support for VLANs, Quality of Service (QoS), and prioritization.
  - Estimate future bandwidth requirements.
  - Upgrade existing voicemail system to incorporate new technologies (unified messaging).
- Investigate opportunities to adapt to voice transmission over the Internet as a way of controlling telephone costs.
- Expand current wireless network to include classrooms and informal learning spaces.

[1] The Flatlands Disability Network, Medicaid Infrastructure Grant (MIG), and Real-Time Captioning Service were created by the North Dakota Center for Persons with Disabilities (NDCPD), a Minot State University Affiliated Program. These projects are grant funded and serve persons with disabilities by providing training, access to services, and employment opportunities. Significant resources are required to sustain the technologies necessary to support these worthy endeavors.

[2] It is impossible to report current expenditures (2005-2007) and project for the next two biennial budget years (2007-2009, 2009-2011) without briefly describing where we are as a campus, and where we are planning to go. For those descriptions, see Technology Goals and Objectives, Scope.

Scope. A critical component of the Technology Infrastructure is security. Making information available over the network increases the risk of unauthorized access or inappropriate use of information. Physical and environmental risks can threaten continuity of operations. Numerous safeguards are currently in place and more have been identified for future implementation.

Objectives.

- Deploy network access appliance, similar to the one currently used to manage all residence hall network access, to ensure overall security and performance across the campus network.
- Upgrade existing network management appliance for added application and IP-based accounting capability.
- Upgrade existing domain controller hardware to improve response to increased security authentication requests.
- Expand Active Directory use to include assigning enterprise-wide policies and applying critical updates across the campus. Research single authentication to gain access to multiple system resources.
- Consolidate current email capabilities to single appliance (i.e., Barracuda).
  - Filter Spam and viruses in real time.
  - Reduce mail system complexity.
  - Allow users to control filtering preferences.
- Upgrade existing backup technologies to ensure more reliable archives of important data and reduced restore times in the event of hardware or application failure.

Goa1 #2. Instructional Technology.
Provide an exceptional teaching, learning, and support environment for faculty and students; leverage technology to engage and challenge students academically both on campus and online.

Scope. Centralized IT staff provides support for a broad range of technology-enhanced services for faculty, staff, and students. Minot State University currently supports over 300 computers in nine general access and teaching labs on campus and at the Minot Air Force Base Education Center. Numerous niche labs exist in support of specialized training for students. Internet capable Learning Spaces are located across campus to "informally" engage students in learning opportunities. A majority of the classrooms on campus are equipped with permanently installed video projection systems and other technology enhancements. Classroom technology, whether permanently installed or delivered on demand, is available in all academic buildings. Videoconferencing capability is available in five campus locations. IT staff support video-enabled classrooms, and registers and certifies wiring and equipment for new classrooms.

WebCT, the campus course management system since 1997, supports fully Web-based courses as well as “blended courses” in which faculty enhance their face-to-face classes with interactive online learning experiences. Minot State University currently provides centralized, online course hosting services for both MSU-Bottineau and Williston State College. Maple T.A. complements the online course management system by providing Web-based testing and assessment targeted for any mathematics, science, or any course that requires mathematics.

Collaborative teaching tools provide an interactive and engaged teaching and learning environment for faculty and students. The Tegrity system enables faculty and students to interact from a distance or to replay course information online, on iPods, Smart phones, and other portable devices. Microsoft Sharepoint Portal along with Team Services creates a single access point for faculty and students to engage in document collaboration, information

sharing, and team-based learning. Other Web-based collaboration tools are available to students and faculty including blogs and wiki sites.

Objectives.

- Education Excellence.
  - Continue Phase II of the *Education Excellence* Cornerstone Project designed to pilot the use of and determine learning outcomes from various classroom technologies (Smart boards, Personal Response System) and portable devices (iPods, PDAs).
  - Provide course development opportunities for faculty to identify and implement technology (streaming audio/video, online discussions, text messaging, group collaboration, podcasts, etc.) that will engage students and complement individual learning styles.
  - Adopt an ePortfolio platform to assist faculty, staff, and students with building and maintaining a digital repository of electronics artifacts that may be used to demonstrate competence, reflect on teaching and learning, maintain records, and facilitate career and resume building.
- Enhance Distance Learning.
  - Upgrade existing course management system from WebCT CE 4.1 to CE 6.
    - Identify pilot courses, conduct faculty training, and begin course conversion Fall 2006.
    - Pilot courses in Spring 2007 with full launch of WebCT CE 6 in Fall 2007.
    - Research real-time offsite backup and restore services (D2D2T).
  - Work with WebCT/Blackboard on consortium licensing to provide centralized server hosting and support for other campuses interested in WebCT Campus Edition 6 with Community Manager.
  - Explore Video over the Internet to provide videoconferencing capability from every classroom.
- Research Computing.
  - Expand usage of Internet2 and other high-speed networking capabilities to communicate across distance and time, collaborate with colleagues, access and interact with live data systems remotely, transfer large data stores, etc.
- Student Computing.
  - Increase wireless and laptop connections across campus.
  - Continue to expand Help Desk offerings and support for all campus constituents; maintain level of available equipment for checkout (laptops, projectors, digital cameras, etc.).
  - Migrate student email accounts to MS Exchange to create a consistent messaging environment that is collaborative and easily ported to mobile devices.
  - Implement email forwarding service for all MSU alumni.

Goal #3. Institutional Support.
Provide access to a wide range of Web-based information to meet the needs of the campus community and the general public, stay on the leading edge of Web development, and develop innovative methods to enable data sharing between systems.

Scope. Minot State University has implemented numerous information services and systems over the past decade, transforming the way the campus engages in educational and business processes. Active Directory authentication streamlines the process for rolling out new and innovative services. The Microsoft Exchange Email/Calendaring system continues to be a successful and cost effective implementation at Minot State University and is currently aligned with and

facilitates application sharing capability between ND state agencies. Microsoft Team Services supports administrative collaboration efforts and is the official tool for document storing and sharing in preparation for the Higher Learning Commission (HLC) accreditation site visit in Spring 2008. The successful implementation of the ImageNow document imaging system has alleviated the time-consuming inefficiencies of manually filing and retrieving documents for the Financial Aid Office, Records Office, and Enrollment Management. The campus ID card system is designed to simplify access to services, events, and secure locations throughout campus.

The campus Web site has become a key information and transaction system. The new front page launched in the Fall of 2006 incorporates news items, promotions of campus events, and a search engine. The improved design and navigation is fully accessible and promotes the campus strategic initiative of “Be Seen, Be Heard".

Objectives.

- Web Site Development.
  - Incorporate new technologies into Web site development (CSS2, XML, SVG); seek out new ways to bring added functionality to the University Web site utilizing streaming media, dynamic content, and other techniques.
  - Work with the Public Information Office and Marketing Committee to create an effective message to highlight the University's programs, image, and accomplishments.
  - Incorporate RSS to allow users to subscribe to campus news feeds and receive daily updates relating to campus activities and events.
- Web-Based and Collaboration Services.
  - Provide configurable portal to all faculty, staff, and students.
  - Implement Web-based timekeeping system at various locations across campus as a means of electronically managing Minot State University staff and student employees' time.
  - Increase communication with prospective students using Chat, Message Boards, and Blogs.
  - Research additional collaboration suite functionality (Instant Messaging, Desktop Videoconferencing, etc.).
- Script Writing and Query Development.
  - Continue developing scripts to interface with and populate external campus systems (i.e., WebCT course management system, Active Directory, MBS Point of Sale). Identify opportunities for full Peoplesoft integration.
  - Further develop query and report writing capabilities in the Peoplesoft environment.

BUDGET

Account Code	Description	Funding Type	2005-07	2007-09	2009-11
510000	Salaries and Wages (Central IT)	Appropriated	$ 552,650.00	$ 580,282.50	$ 609,296.63
	Salaries and Wages (Outside Central IT-Includes IVN))	Local	201,043.00	211,095.15	221,649.91
	Salaries and Wages (Student Technicians)	Local	47,568.00	27,136.00	28,492.80
	Salaries and Wage (Outside Central IT)	Grant	162,720.00	N/A	N/A
516000	Benefits (Central IT)	Appropriated	206,443.00	216,765.15	227,603.41
	Benefits (Outside Central IT-Includes IVN)	Local	75,097.00	78,851.85	82,794.44
	Benefits (Student Technicians)	Local	3,806.00	2,171.00	2,279.00
	Benefits (Outside Central IT)	Grant	60,700.00	N/A	N/A
521000	Travel (as it relates to Professional Development)	Appropriated	6,820.00	7,502.00	8,252.20
	Travel (as it relates to Professional Development)	Local	9,000.00	9,900.00	10,890.00
531000	Supplies - IT Software	Appropriated	125,800.00	138,380.00	152,218.00
	Supplies - IT Software	Local	332,000.00	365,200.00	401,720.00
551000	IT Equipment under $5000	Appropriated	105,506.00	116,056.60	127,662.26
	IT Equipment under $5000	Local	167,520.00	215,000.00	240,000.00
	IT Equipment under $5000	Grant	58,316.00	N/A	N/A
581035	IT Equipment-Capital Lease-Int		0.00	0.00	0.00
581040	IT Equipment-Capital Lease-Prin		0.00	0.00	0.00
581045	IT Equipment Rental-Oper Lease		0.00	0.00	0.00
591025	Maintenance Agreements	Appropriated	18,000.00	19,800.00	21,780.00
	Maintenance Agreements	Local	11,674.00	12,841.40	14,125.54
591070	Repairs - IT	Appropriated	3,450.00	3,795.00	4,174.50
602000	IT Communications	Appropriated	175,000.00	192,500.00	211,750.00
	IT Communications	Local	46,000.00	50,000.00	52,000.00
611000	Professional Development	Appropriated	200.00	220.00	242.00
	Professional Development	Local	9,000.00	9,900.00	10,890.00
621230	IT Contractual Services	Appropriated	4,901.87	5,000.00	5,500.00
621235	IT Services	Appropriated	200.00	500.00	550.00
	IT Services	Local	13,120.00	5,000.00	5,500.00
623090	IT Consultant/Development	Local	3,000.00	3,300.00	3,630.00
693000	IT and Telecommunications Equipment $5000 and over	Appropriated	50,000.00	125,000.00	140,000.00
	IT and Telecommunications Equipment $5000 and Over	Local	125,000.00	125,000.00	125,000.00
	IT and Telecommunications Equipment $5000 and Over	Grant	9,000.00	N/A	N/A